

IN THE CLAIMS

Please cancel claims 2 and 13 without prejudice or disclaimer.

Please amend claim 1 as indicated below.

Please add claims 33-35 as indicated below.

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (currently amended) A method for depositing a coating onto a substrate, said method comprising the introduction of an atomised coating forming material into an exciting medium, said exciting medium causing chemical activation of the atomised coating forming material resulting in the formation of activated precursor species prior to or prior to and during the material being deposited onto a substrate to form the coating thereon, said substrate being located substantially inside the exciting medium during coating deposition, and characterised in that the exciting medium is pulsed to significantly retain the chemical properties by substantially reducing dissociation of said atomized coating forming material.

Claim 2 (cancelled)

Claim 3 (original) A method according to claim 1 characterised in that an atomizer is used to introduce the coating forming material with each atomizer having a monomer supply connected thereto.

Claim 4 (previously presented) A method according to claim 1 characterised in that the exciting medium is a pulsed plasma discharge selectively operated at atmospheric pressure.

Claim 5 (previously presented) A method according to claim 1 characterised in that the exciting medium is a pulsed plasma discharge selectively operated at less than atmospheric pressure

Claim 6 (original) A method according to claim 1 characterised in that at least one additional material is added into the atomised coating forming material.

Claim 7 (original) A method according to claim 6 characterised in that the additive material acts as a buffer to maintain the process pressure and/or carry the atomised forming material.

Claim 8 (previously presented) A method according to claim 6 characterised in that the additive material modifies and/or is incorporated into the atomised coating forming material and/or the resultant coating.

Claim 9 (original) A method according to claim 6 characterised in that the introduction of the additional materials to the atomised coating forming material is pulsed.

Claim 10 (original) A method according to claim 1 characterised in that the exciting medium is a pulsed plasma charge.

Claim 11 (original) A method according to claim 1 characterised in that the exciting medium is created by a pulsed flux of electromagnetic radiation.

Claim 12 (original) A method according to claim 1 characterised in that the exciting medium is created by a pulsed flux of ionised particles or radicals.

Claim 13 (cancelled)

Claim 14 (original) A method according to claim 1 characterised in that the substrate to which the coating material is applied is located outside of the pulsed exciting medium during coating deposition.

Claim 15 (previously presented) A method of producing a multi-layered material coating on a substrate characterised in that the substrate is repeatedly exposed to excited coating forming material produced in accordance with the method of claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 or 14.

Claim 16 (previously presented) A method of producing a multi-layered material coating on a substrate characterised in that the substrate is repeatedly exposed to excited coating forming material produced in accordance with the method of claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 or 14, wherein the nature of the exciting medium is changed during the coating formation.

Claim 17 (original) A method according to claim 15 characterised in that the coating formed on the substrate is post-treated by exposure to an exciting medium.

Claim 18 (original) A method according to claim 15 characterised in that the substrate is pre-treated prior to coating by exposure to the exciting medium prior to coating deposition.

Claim 19 (previously presented) A method according to claim 1 characterised in that the substrate is any of metal, glass, semiconductor, ceramic, polymer, woven or non-woven fibres, natural fibres, synthetic fibres, celluloaic material, or powder..

Claim 20 (previously presented) A method according to claim 1 characterised in that the coating forming material comprises an organic, organosilicon, organometallic, or inorganic material; or mixtures thereof.

Claim 21 (original) A method according to claim 1 characterised in that the atomised coating forming material is deposited via an ultrasonic nozzle supplied with coating forming material in the form of a liquid or liquid/solid slurry.

Claim 22 (original) A method according to claim 1 characterised in that the atomised coating forming material is deposited via a nebulizer supplied with coating forming material in the form of a liquid or liquid/solid slurry and a carrier gas.

Claim 23 (original) A method according to claim 1 characterised in that the atomised coating forming material is deposited via a plain-jet gas blast atomizer supplied with coating forming material in the form of a powder, and a carrier gas.

Claim 24 (original) A method according to claim 1 characterised in that a plurality of atomizers are used to supply coating forming material to the excitation medium.

Claim 25 (previously presented) A method according to claim 1 characterised in that the excitation medium is heated.

Claim 26 (original) A method according to claim 1 characterised in that the coated substrate is subject to derivatization.

Claim 27 (previously presented) A method for depositing a coating formed from a liquid coating forming material or a liquid mixed with substantially insoluble particles, said method comprising the steps of atomising the coating forming material and introducing it into a pulsed exciting medium to chemically activate the coating forming material and facilitate the formation of activated precursor species to the coating, these precursor species deposited onto a substrate, forming the coating, wherein the exciting medium is pulsed to significantly retain the chemical properties of the atomised coating forming material.

Claim 28 (original) A method according to claim 27 characterised in that the liquid is an organic or organo-silicon monomer or oligomers.

Claim 29 (original) A method according to claim 27 characterised in that the precursor species are monomeric or oligomeric radicals and ions.

Claim 30 (original) A method according to claim 27 characterised in that the atomised coating forming material passes through an atomizer or nebulizer.

Claim 31 (original) A method according to claim 1 characterised in that the exciting medium contains the atomised coating forming material in the absence of other materials.

Claim 32 (withdrawn) Apparatus for the application of a coating to a substrate, said apparatus comprising a vacuum chamber, means for introducing coating forming material in an atomised form into the chamber, means for creating an exciting medium within the chamber, and a means for holding at least one substrate to be coated in the chamber, said

atomising means directing the atomised coating forming material to pass through the exciting medium prior to reaching the substrate and characterised in that the means for creating the exciting medium is controlled so as to generate the exciting medium in a pulsed manner.

Claim 33 (new) A method for depositing a coating onto a substrate, said method comprising the introduction of an atomised coating forming material into an exciting medium, said exciting medium causing activation of the atomised coating forming material prior to, or prior to and during the material being deposited onto a substrate to form the coating thereon, the exciting medium being pulsed, the substrate being repeatedly exposed to excited coating forming material, wherein the nature of the exciting medium is changed during the coating formation.

Claim 34 (new) A method according to claim 33 wherein the coating formed on the substrate is post-treated by exposure to an exciting medium.

Claim 35 (new) A method according to claim 33 wherein the substrate is pre-treated prior to coating by exposure to the exciting medium prior to coating deposition.